

REMARKS

In view of the above amendments and following remarks, Applicants respectfully request reconsideration and allowance of the above-identified application.

Claims 12-16 remain pending in this application. Claim 12 is the sole independent claim. By this Amendment, Applicants have amended Claim 12.

Claims 12-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,598,493 (Fisher) in view of U.S. Patent No. 5,922,266 (Grove) and U.S. Patent No. 6,255,644 (Taniguchi, et al.). Applicants traverse these rejections.

As recited in independent Claim 12, Applicants' invention is directed to an optical scale molded by using movable and fixed platens. The optical scale includes a reflecting portion and a shaft holding portion. The reflecting portion reflects light emitted from the light emitting means and leads the reflected light to the light-receiving means by using a total reflection. The shaft holding portion holds a shaft and rotates the optical scale with the shaft. The reflecting portion is disposed only on the same side surface with the shaft holding portion and the shaft holding portion does not have a through-hole. Further, the reflecting portion and the shaft holding portion are integrally formed in one piece using one of the movable platen and the fixed platen by employing one kind of transparent resin material. One of the platens has an injection gate at a position corresponding to a center of the scale.

In accordance with the claimed invention, a transparent resin material may be injected from the center of a cavity used for molding the optical scale so as to uniformly flow into the cavity. Consequently, a user may obtain an optical scale which has uniform precision and characteristics in a circumferential direction.

The Fisher patent is directed to a transparent material having internal reflection properties in which a reflecting surface and a shaft holding portion are coaxial. However, as recited in amended Claim 12, the Fisher patent does not disclose or suggest an optical scale wherein the shaft holding portion does not have a through-hole and one of the platens has an injection gate at a position corresponding to a center of the scale.

The Taniguchi, et al. patent is directed to an optical rotary encoder. That patent was cited to disclose the shaft holding portion being formed by employing one kind of transparent resin material. However, like Fisher, Taniguchi, et al. fails to disclose or suggest that one of the platens has an injection gate at a position corresponding to a center of the scale and that a shaft holding portion does not have a through-hole.

In addition, the Grove patent is directed to simultaneous injection and pressurization molding, used particularly for fabricating optical products. That patent was cited as disclosing the feature of using a movable platen and a fixed platen. While Grove may disclose a movable platen and a fixed platen, Grove does not disclose or suggest the combination of such features as (i) one of the platens having an injection gate at a position corresponding to a center of a scale, (ii) the shaft holding portion not having a through-hole, and (iii) the reflecting portion being disposed only on the same side surface as the shaft holding portion.

Accordingly, Applicants submit that the Fisher, Taniguchi, et al., and Grove patents, taken alone or in combination, fail to disclose or suggest at least the features of an optical scale molded with (i) one of the platens having an injection gate at a position corresponding to a center of the scale, (ii) a shaft holding portion which does not have a

through-hole, and (iii) the reflecting portion being disposed only on the same side surface as the shaft holding portion, as recited in independent Claim 12.

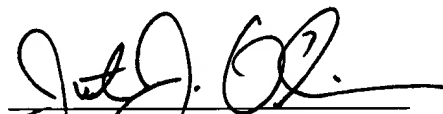
The remaining claims in this application are dependent claims which depend from independent Claim 12, and are thus patentable over the documents of record for reasons noted above with respect to independent Claim 12. In addition, each recites features of the invention still further distinguishing it from the applied patents. Applicants request favorable and independent consideration thereof.

For the foregoing reasons, Applicants request withdrawal of the rejection under 35 U.S.C. § 103.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and is believed to clearly place this application in condition for allowance. At the very least, the changes presented herein reduce the number of issues on appeal. Applicants request entry of this Amendment under 37 C.F.R. § 1.116.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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